

ABSENCE OF REPAGULA IN AUSTRALIAN ASCALAPHIDAE (NEUROPTERA)

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Abstract

Repagula have not been found in ascalaphid egg batches collected in Australia. Gregarious behaviour of first instar larvae may be related to predation rather than to defence.

Repagula, aborted eggs deposited near normal eggs and perhaps helping to protect them from predation by functioning as alternative food, are now well-known in Ascalaphidae from the New World (Henry 1972, for summary), but the few observations made on Old World species imply that they are absent. The only data available for the Australian fauna are the somewhat casual observations reported by Froggatt (1906) and Tillyard (1926), which were made in the context of a largely unknown fauna. It is now clear (New 1984) that the Australian Ascalaphidae comprise a group of closely related genera in the Suhpalacsini (Ascalaphinae), and the above inferences can be considered more confidently. Some additional information is also given.

About 20 egg masses of ascalaphids from various parts of southern Australia and the southern savannah regions of Papua New Guinea have been examined at intervals over the last few years. All were field-collected and their identities therefore not confirmed. All batches consisted of 30-76 eggs (Tillyard, 1926, noted 50-100 laid by one female), and eggs were laid on twigs or grasses, attached by their lower and central regions. There is some variety in oviposition pattern, as some batches comprised distinct longitudinal rows or eggs and others of eggs completely encircling the substrate. No batch bore any repagula, and all eggs of most hatched. From features of laboratory-hatched larvae, at least 4 species are present in the overall sample.

Because of the close relationship between the taxa possibly represented it is now virtually certain that repagula are not produced by Australian ascalaphids. A few females (*Suhpalacsa* Lefebvre (2), *Suphalomitus* van der Weele, *Pilacmonotus* New) have been dissected and none has the anterior differentiated ovarioles found in species which produce repagula (see New 1971).

Larvae are gregarious, and gather at the uppermost end of the egg-batch immediately after hatching. They typically face downwards with mandibles apart in the 'group defense' posture noted by Henry (1972), and remained there for 16 days in a Papua New Guinea species observed in early 1984. The larvae did not feed during this period, although a range of small insects was provided, and the role of this behaviour for such a long period after all the eggs have hatched is unclear. The usual suggestion of 'defence' is not altogether convincing, and Tillyard's (1926) comment (repeated by McKeown 1942)

that larvae may jointly attack 'unwary insects' merits further investigation. Such communal predation is highly unusual in the Neuroptera.

References

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BOOK REVIEW

A guide to common moths of the Adelaide region by P. B. McQuillan and J. A. Forrest. 52 pages including 15 pages of plates. South Australian Museum, Adelaide. Published November 1985.

It is always pleasing to see a well-written identification guide on Australian moths. This small but valuable book is one to be recommended to all interested in moths, especially to moth collectors and field naturalists. 114 species are illustrated (64 in colour) and a corresponding text for each species summarises its range, flight period, life history, food plants and other points of particular interest for that species. In addition there is a brief Introduction which discusses subjects such as life history, strategies for survival, seasonality and collecting. The entire text is supplemented by references to further reading for those who wish to delve deeper into the subject; 40 key references are listed in the Bibliography. There is also a Glossary, a list of larval foods and an Index.

I could find no errors for the species with which I am familiar and only 1 minor typographical error in the index. Priced at a very reasonable \$8.50 this useful reference should be on your book shelf if you are interested either directly or indirectly in Australian moths.

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AN ACCUMULATIVE BIBLIOGRAPHY OF AUSTRALIAN ENTOMOLOGY

Compiled by M. S. and B. J. Moulds

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